

# Work Order ID 73807



Page 1

Thursday, September 15, 2011 3:57:53 PM

Item ID: D350-748-201

Accept



Setup Start



Revision ID:

Stop



Item Name: Crosstube Installation, High Aft

Start Date: 9/15/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 10/6/2011 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan:

Date: 11-09-15

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D350-748-241

F

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile & type labels per PPPD350-748-201

CHG002

12-05-23

12-5-23

110

0.00



BENDING MACHINE - CROSSTUBES

CNC Bend 2

Memo

0.00

CNC Alpha 160 Bender

Bend tube as per Dwg D350-748-241 using CNC bender program D350A and Folio FT



12-4-4

120

0.00



QC15- Crosstube Dimensional Check

QC

Memo

0.00

Quality Control

CP 12-04-11

702

W/O: 73807

## WORK ORDER CHANGES

DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D350-748-201 PAR #: \_\_\_\_\_ Fault Category: X-tube NCR: Yes No DQA: OK Date: 12/05/20  
 Resolution: Rework Disposition: Rework QA: N/C Closed: OK Date: 12/5/31

NCR: 12-1468

## WORK ORDER NON-CONFORMANCE (NCR)

DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
12.04.11	110	Bent high + narrow	CP 12.04.11 Q51672	Acceptable	N/A	S 12/5/29	CP 12.04.11 Q51042	S 12/04/11
12/04/17	# 100	Found that cuff is ovalized Ranges to 0.06" to 1.00" R.C. Heat treat method	CP 12.04.15 Q51042	Rework by cuff per attached email original dims min 2.204" max 2.274" after rework min 2.237" max 2.250"	Q 12.04.15	S 12/5/29	CP 12.04.15 Q51042	S 12/04/17
12.07.15	110	Crushing of tube after bending is over tolerance	CP 12.04.15 Q51042	Acceptable per attached SR	N/A	S 12/5/29	CP 12.04.15 Q51042	

NOTE: Date &amp; initial all entries

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Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

125



HandFXtube

Hand Finishing Crosstubes

ISSUE P.O to Meteor

0.00

0.00

P/O: 14638

CL 12/04/04 ①

Memo

\*\*\*Stress relief\*\*\*

Heat treat crosstube as per QSI010 4.3

Temp: \_\_\_\_\_

Start time: \_\_\_\_\_

Finish time: \_\_\_\_\_

COPIED TO D350-748-241 F.1

127



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

0.00

Memo

GP 12-04-11 ①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Customer:

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Run Start



Approvals: Process Plan: Date: Tooling: Date:

Stop



QC: Date: SPC (Y/N): Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Crosstubes	0.00							
	Crosstubes								
Crosstubes	Memo	0.00							
Crosstubes	1-Drill Tube as per Dwg D350-748-241 Using DT8876 Drill Jigs, Set-up drill table as per QSI 010								
	2-Deburr								
	3-Engrave Part # and Batch # as per Dwg D350-748-241								
	4-Remove all marks from tube within limits of D350-748-241								
	5-Apply a light coat of LPS3 on the interior of tube								
	Batch: _____								
140	QC6- Inspect dimensions to drawing	0.00							
	QC								
Quality Control	Memo	0.00							

JW 12-4-20

RM 12-4-23

N/A

Sizeloz

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

Reference:

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Run Start

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

150

Outsource process-Cadplate per QSI017 4.1.9.1

0.00



Outsource3

Memo

0.00

Outsource process - Cad plate

Issue P/O: 16826  
Stress relief at 375° for 5 hours  
Magnetic Particle Inspect per ASTM E1444  
Cadium Plate per AMS-QQ-P-416B, Class 1, Type 2  
Embrittle relief at 375° for 8 hours, Chromate Treat  
Possible Supplier: Southwest United Industries  
Ensure Certificate of Conformity is attached

CX 12/04/25 (1)

160

Receive & Inspect for Damage & Mat'l Certs

0.00



Packaging

Memo

0.00

Packaging

Ensure certificate of conformity is attached

170

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

WJ 12/05/22

POSITIVE RECALL

EFFECTIVE 12/14/25 AUTH CP

RELEASED CP DATE 12/15/15

LONG TEST

Punch. ~~to~~ issue P/O to Acuren 2/0.17031 CX 12/05/22

rec'd need inspect for transit damage attached CFC to W/O (C) 12/05/22

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries



# Dart Aerospace Ltd

W/O: 73807		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
11.10.13	161	LOAD TUBE TO 3000 <sup>lb</sup> FOR 1 MINUTE REF D.S. EMAIL		CP 12.05.15	1	CP 12.05.15 CS/HTZ	
11.10.13	162	NDT TUBE				CP 12.05.15 CS/HTZ	

Part No: D350-748-201 PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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NOTE: Date & initial all entries

## Chris Provencal

---

**From:** David Shepherd <dshepherd@dartaero.com>  
**Sent:** Tuesday, April 27, 2010 3:40 PM  
**To:** 'Mike Petsche'  
**Cc:** 'Bill Beckett'; 'L Lacelle'; 'Chris Provencal'; 'Dan Stow'; ssheldon@dartaero.com  
**Subject:** 350 crosstubes

Mike,

I discussed the 350 crosstube load testing with Bill a little while ago and this plan makes sense to him.

So, my recommendation to clear these crosstubes is to load the fwd crosstubes to 3500 lb and the aft crosstubes to 3000 lb in the deflection test rig and document on the work orders that this test has been completed. Hold max load for 1 minute. Per TP-D350-748-2, these loads represent the maximum load on these crosstubes at gross weight and are below the yield point of the material. I would like to request that Chris Provencal witness these tests and sign off the work orders based on his experience with Dart landing gears. My feeling is that if there is a problem with the parts, it will manifest itself during this load test. I, for one, would feel a lot more confident in testing each crosstube in this manner than relying totally on what Exova has to say. I think it would be very difficult to reach a conclusion on the whole batch on the basis of cracks in two parts from the batch.

I believe that we can accomplish this before next Friday, which also gives us time to hear what Exova has to say in case it has an impact on our decision. So far, what I have seen from Exova shows me that there are fluctuations in the heat treating but the tubes are heat treated to our specification.

For this reason, I believe we should tell DHS that it looks like we will be able to start shipping 350 crosstubes by May 7th pending a successful Engineering test of the material.

David.

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Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180  SprayPaint Spray Painting	SprayPaint  Memo 1-Prime inside crosstube as per QSI 005 4.2 2-Paint Outside of Tube as per Dart QSI 005 4.2	0.00  0.00							
						12	5	19	
190  QC Quality Control	QC14- Inspect Spray Paint  Memo Then, Wrap in plastic bag to protect from scratches	0.00  0.00							
						12	05	20	
200  Crosstubes Crosstubes	Crosstubes  Memo 1-Install Ground wire Insert, then insert screw and washer 2-Install Abrasion strips as per Dwg D350-748-241 & QSI 035. 3-Install supports Using Dt8876 as per Dwg D350-748-241, Torque to 60-80 IN-LBS	0.00  0.00							
						12	5	20	

B120133 start 8:00 Finish 8:45  
B121625 start 12:30 Finish 1:30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control									
220	Pick Kit	0.00							
Packaging	Memo	0.00							
Packaging									
230	QC4- 100% Inspect kits for completeness	0.00							
QC	Memo	0.00							
Quality Control									

Siz 105/23

12/05/23 JB

m/j 12-05-23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240		0.00							
	Packaging								
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPPD350-748-201								
	Location:								
	PPP Rev:								
250		0.00							
	QC21- Final Inspection - Work Order Release								
QC	Memo	0.00							
Quality Control									

12/15/23 (1)

12/15/28

MF  
12-05-23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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# Picklist Print

Page 1

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Parent Item: D350-748-201

Parent Item Name: Crosstube Installation, High Aft

Start Date: 9/15/2011

Required Date: 10/6/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev: A New Issue 06-07-05 JLM  
 IPP Rev: B Update qty of MS21042L5 06-09-12 KJ  
 IPP Rev C Combined manufacturing 08.04.02 EC verified by: DD  
 IPP Rev:D 08-06-24 revD as per dwg DD verified by:EC  
 IPP Rev: E 08.12.11 Step17 was step 21 KJ Verified by:EC IPP Rev:F  
 10.08.04 added QSI010 4.3 DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D350-748-241TRN		Manufactured	No			110	Each	9.0000	1	1			

Crosstube Turning Detail

Location	Loc Qty	Loc Code
LG	8	
61314	0	
61315	0	
68838	1	
68839	1	
68841	1	
70654	1	
72330	1	
72331	1	
72332	1	
72333	1	
LG003	1	
68840	1	

B 73368 MO

ALS4-1032-225

Purchased

No

200

Each

1,895.000

1

1

Insert

Location	Loc Qty	Loc Code
ST282	1895	
110768	62	
117717	9	
118386	860	
118696	964	

B# 121269

12-05-22  
For Andy

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Required Date: 10/6/2011

Start Qty: 1.00

Required Qty: 1.00

AN960JD10 NAS1149D0363J Purchased No

200 Each

0.0000

1

1



121243



①

AS 12-5-20

Washer

D2856-400 Manufactured No

200 f

208.9845

1.181

1.243158



AS 12-5-20

Abraison Strip

Location

74551

Loc Qty

Loc Code

1.243158

ST403

0.3149

68076

0.3149

ST409

208.6696

63735

0.6696

71164

208

I - cut as per dwg D2856

D3502-1 Manufactured No

200 Each

43.0000

2

2



AS 12-5-20

Support

74873

Location

Loc Qty

Loc Code

ST063

43

61206

7

64004

10

68951

12

72129

14

MS21920-20 Purchased No

200 Each

74.0000

2

2



AS 12-5-20

Clamp (per MIL-DTL-8783C)

Location

121067

Loc Qty

Loc Code

LG050

74

116799

10

118236

18

118649

46

W/O:		WORK ORDER CHANGES					
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Start Date: 9/15/2011

Required Date: 10/6/2011

Start Qty: 1.00

Required Qty: 1.00

MS27039-1-10

Purchased

No

200

Each

295.0000

1

1



Screw

120120

Location

Loc Qty

Loc Code

ST290

95

308

117441

95

ST291

200

118612

200

①

At 12-5-20

AN4-41A

Purchased

No

220

Each

309.0000

8

8



Bolt

Location

Loc Qty

Loc Code

ST360

309

115108

34

115705

50

116191

50

117619

50

117795

25

118451

50

118838

50

117619

JB

AN4-6A

Purchased

No

220

Each

1,216.000

16

16



Bolt

Location

Loc Qty

Loc Code

ST356

1200

117872

200

118422

300

118628

400

118838

300

ST358

16

117514

16

121631

JB

12/05/23

Thursday, September 15, 2011 3:57:57 PM

Shop Packet Print

Page 3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Start Date: 9/15/2011

Required Date: 10/6/2011

Start Qty: 1.00

Required Qty: 1.00

AN5-32A Purchased No 220 Each 172.0000 4 4 ✓  
Bolt



119328 JB

1

Location	Loc Qty	Loc Code
ST339	50	
118628	50	
ST340	122	
117161	1	
117872	60	
118191	11	
118422	50	

AN960JD416 NAS1149D0463J Purchased No 220 Each 0.0000 32 32 ✓

Washer

AN960JD516 NAS1149D0563J Purchased No 220 Each 0.0000 8 8 ✓

Washer

D3500-1 Manufactured No 220 Each 16.0000 4 4 ✓  
Saddle



121768 JB

50



119546 JB

1



76000 JB

12/05/23

Location	Loc Qty	Loc Code
ST424	9	
66127	9	
ST424/25	7	
62207	7	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Thursday, September 15, 2011 3:57:57 PM

Work Order ID: 73807

Parent Item: D350-748-201

Parent Item Name: Crosstube Installation, High Aft

Start Date: 9/15/2011

Required Date: 10/6/2011

Start Qty: 1.00

Required Qty: 1.00

D3501-1 Manufactured No

220 Each

245.0000 16 16 ✓



Bushing



JB

Location

Loc Qty

Loc Code

ST063

202

68939

102

70682

100

ST066

43

67757

43

70682

MS21042L4 Purchased No

220 Each

3,501.000 24 24 ✓



Nut



12/01 JB

Location

Loc Qty

Loc Code

ST300

3501

117441

51

117601

637

117885

813

118451

2000

MS21042L5 Purchased No

220 Each

1,295.000 4 4 ✓



Nut



119109 JB 12/05/23

Location

Loc Qty

Loc Code

ST300

1295

116105

5

116548

53

117441

351

117611

90

118179

496

118910

300

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

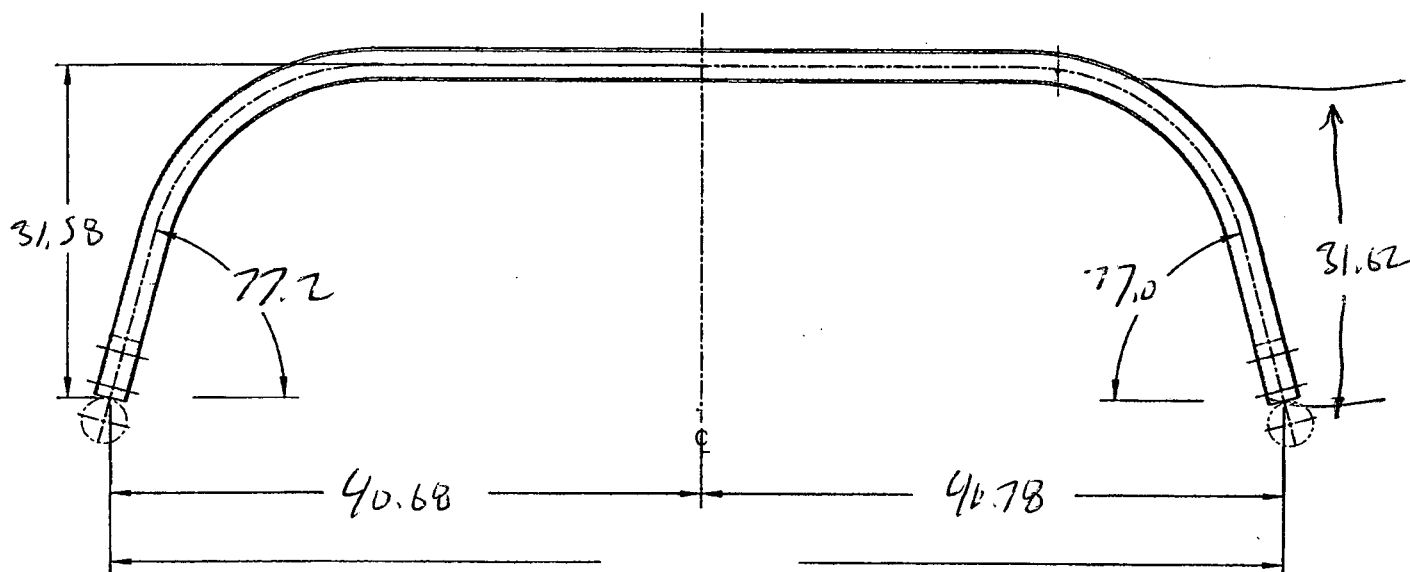
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

DART AEROSPACE LTD		Work Order:	73807
Description: Crosstube High Aft (AS350/355)		Part Number:	D350-748-201
Inspection Dwg: D350-748-241 Rev: E		Page 1 of 1	

Required Dimension	Min	Max
Height	31.22	31.48
1/2 Span	40.77	41.03
Angle	75	77
Total Span	81.54	82.06



Comments
Twist = 0
CRUSHING 5.7% / 6.4%
BENT & NARROW, Acceptable 12.04.11

QC15 Inspection	<i>[Signature]</i>
Date	12.04.11

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	10.08.23	Dwg Rev updated	KJ	<i>[Signature]</i>

2.057  
2.306

2.09  
2.321

Item	Qty -241	Part Number	Description
1	X	D350-748-241	CROSSTUBE ASSEMBLY (AS 350/355 HI AFT)
2	1	D6015-125	CROSSTUBE (OR D6018-125)
3	2	D3502-1	SUPPORT
4	2	D2856-400-710	ABRASION STRIP
5	1	AELS-1032-225	INSERT
6	1	NAS1149D0363J	WASHER (OR AN960JD10)
7	2	MS21920-20	CLAMP (PER DART SPEC. M-MS21920-20)
8	1	MS27039-1-10	SCREW

#### GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6015-125 OR D6018-125  
FINISHED LENGTH = 122.700±0.06
- 2) FINISH: MAGNETIC PARTICLE INSPECT PER DART QSI 038 4.2  
CADMIUM PLATE PER AMS-QQ-P-416B, CLASS 1, TYPE II  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: DART PART NUMBER "D350-748-241" AND BATCH NUMBER ON INSIDE OF CUFF  
PER DART QSI 044 6.4 (VIBRATING STYLUS)
- 7) WEIGHT: 29.85 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE, EXCEPT FOR Ø.297 HOLE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT ALL EDGES FROM MACHINING  
LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH. NOTE: ALL HOLES ARE DRILLED AFTER  
BENDING.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 7 PASSES. MAXIMUM TUBE FLATTENING DUE TO  
BENDING IS 6% BASED ON O.D.
- 11) HEAT TREAT TO MIN. 180 KSI PER MIL-T-6736 OR AMS 2759-1C AFTER TURNING. ACCEPTABLE TO  
VERIFY TENSILE STRENGTH BY HARDNESS TEST PER ASTM E18 TO 40-45 HRC.
- 12) INSTALL D2856-400-710 ABRASION STRIPS WITH A GAP ON BOTTOM SIDE OF CROSSTUBE,  
CENTERED OPPOSITE D3502-1 SUPPORT, PER QSI 035.
- 13) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE  
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES,  
NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY.  
CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE. WHEN DRILLING HOLES EXTREME CARE  
MUST BE TAKEN AND CAREFUL DEBURRING PERFORMED TO ENSURE A CLEAN HOLE WITH NO  
CRACKING/CHIPPING/GROOVES.
- 14) TORQUE CLAMPS 60 TO 80 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT  
NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.
- 15) MAX TWIST AFTER BENDING: WITH XTUBE LAYED FLAT ON SURFACE, THE DIFFERENCE BETWEEN  
CUFF HEIGHTS FROM THE SURFACE MAY BE NO LARGER THAN 0.25 (ZN C1-3).

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 73-107  
11-09-15

RELEASED  
2011-07-08

F	ADD HRC TEST OPTION (B8-1) PER PAR 09-040, ADD TWIST LIMIT (A8-1, C1-3), ADD D6015-125 OPTION (C8-1), STOCK DIM NOW MACHINED (D1-4)	CP	10.11.23
E	REVISE GENERAL NOTES; UPDATE TO CURRENT STANDARDS; RELOCATED FLAG #6 PER PAR 08-046 (ZN A8-3); ADD TOLERANCES (ZN C6-3, D2-3)	RF	09.09.30
D	MAG. PARTICLE AND CAD PLATE AS MFD.	CP	06.10.31
C	ADD CAD PLATING	CP	06.08.14
B	ADD D6018-125 & PRIME AND PAINT	CP	06.06.30
A	NEW ISSUE	CP	06.03.31
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	10.11.23		

**DART AEROSPACE LTD**  
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. REV. F  
D350-748-241 SHEET 1 OF 4  
TITLE SCALE  
CROSSTUBE (AS 350/355 HI AFT) NTS

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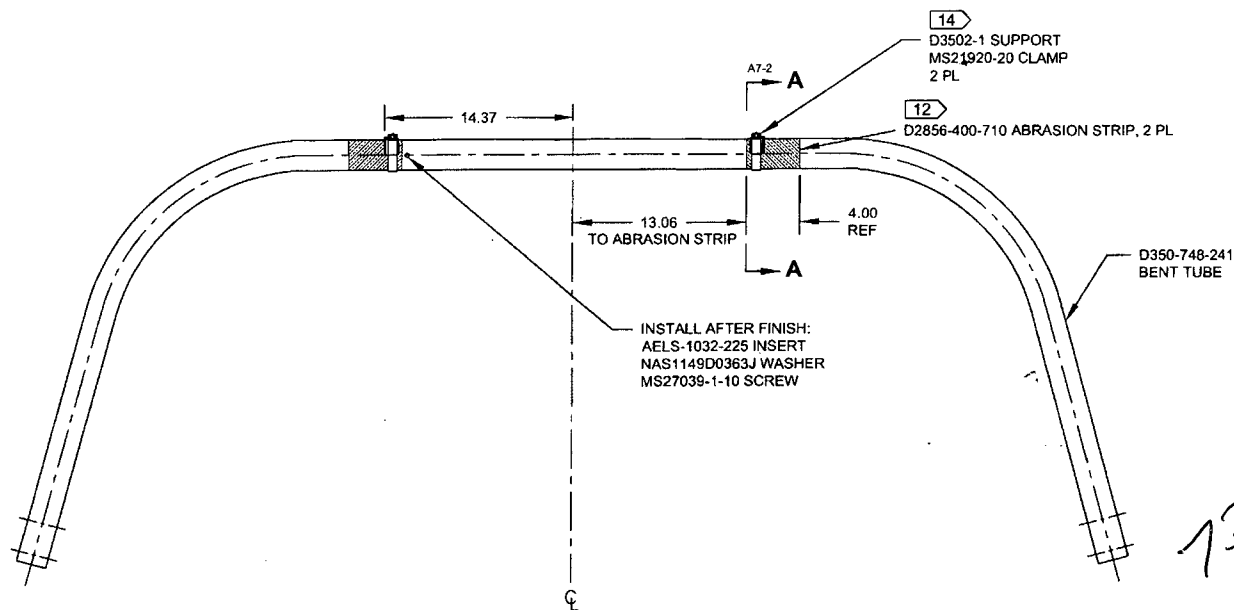
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

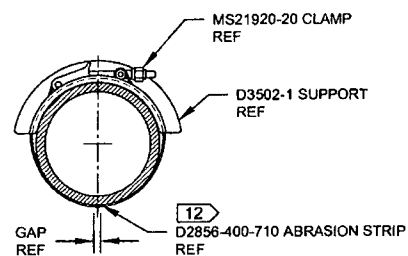
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**D350-748-241  
ASSEMBLY DETAIL**



**SECTION A-A** D4-2  
SCALE 4X

**RELEASED**  
R 2011-03-19  
JMD

DESIGN	90	<b>DART AEROSPACE LTD</b>	
DRAWN	90	HAWKESBURY, ONTARIO, CANADA	
CHECKED	13	DRAWING NO.	REV. F
MFG. APPR.	13	D350-748-241	SHEET 2 OF 4
APPROVED	14	TITLE	SCALE
DE APPR.	14	CROSSTUBE (AS 350/355 HI AFT)	NTS
DATE	10.11.23	<small>COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

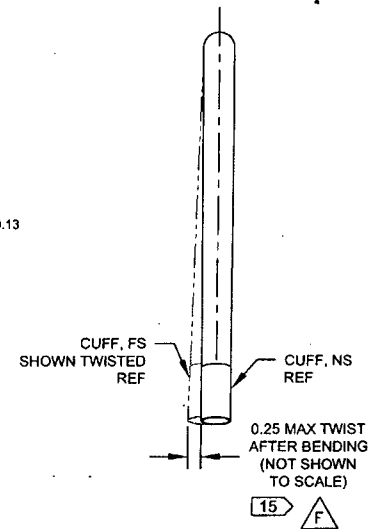
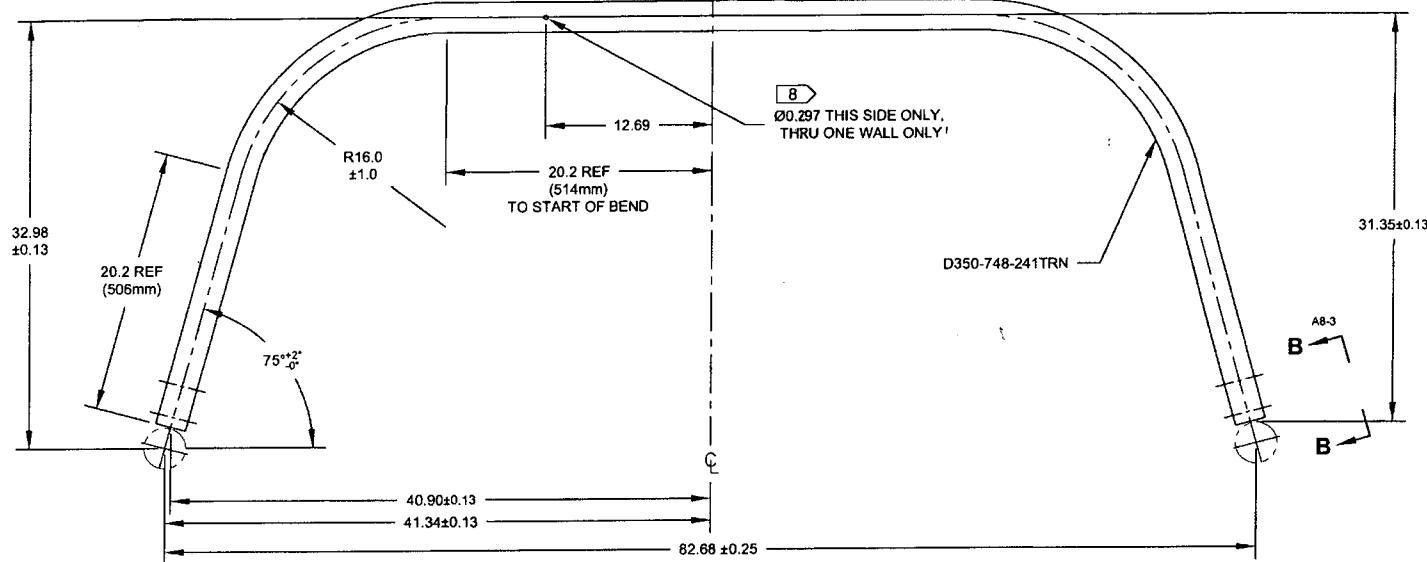
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D

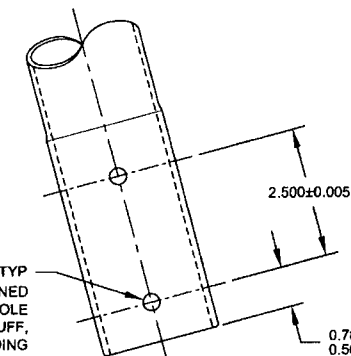
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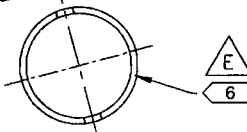
A



**D350-748-241**  
**BENDING AND DRILLING DETAIL** 10



C2-3 **VIEW B-B**  
SCALE 4X



8 7 6 5 4 3 2 1

13 807

**RELEASED**  
2011-01-18

DESIGN		<b>DART AEROSPACE LTD</b>
DRAWN		HAWKESBURY, ONTARIO, CANADA
CHECKED		DRAWING NO. REV. F
MFG. APPR.		D350-748-241 SHEET 3 OF 4
APPROVED		TITLE SCALE
DE APPR.		CROSSTUBE (AS 350/355 HI AFT) NTS
DATE	10.11.23	COPYRIGHT © 2006 BY DART AEROSPACE LTD
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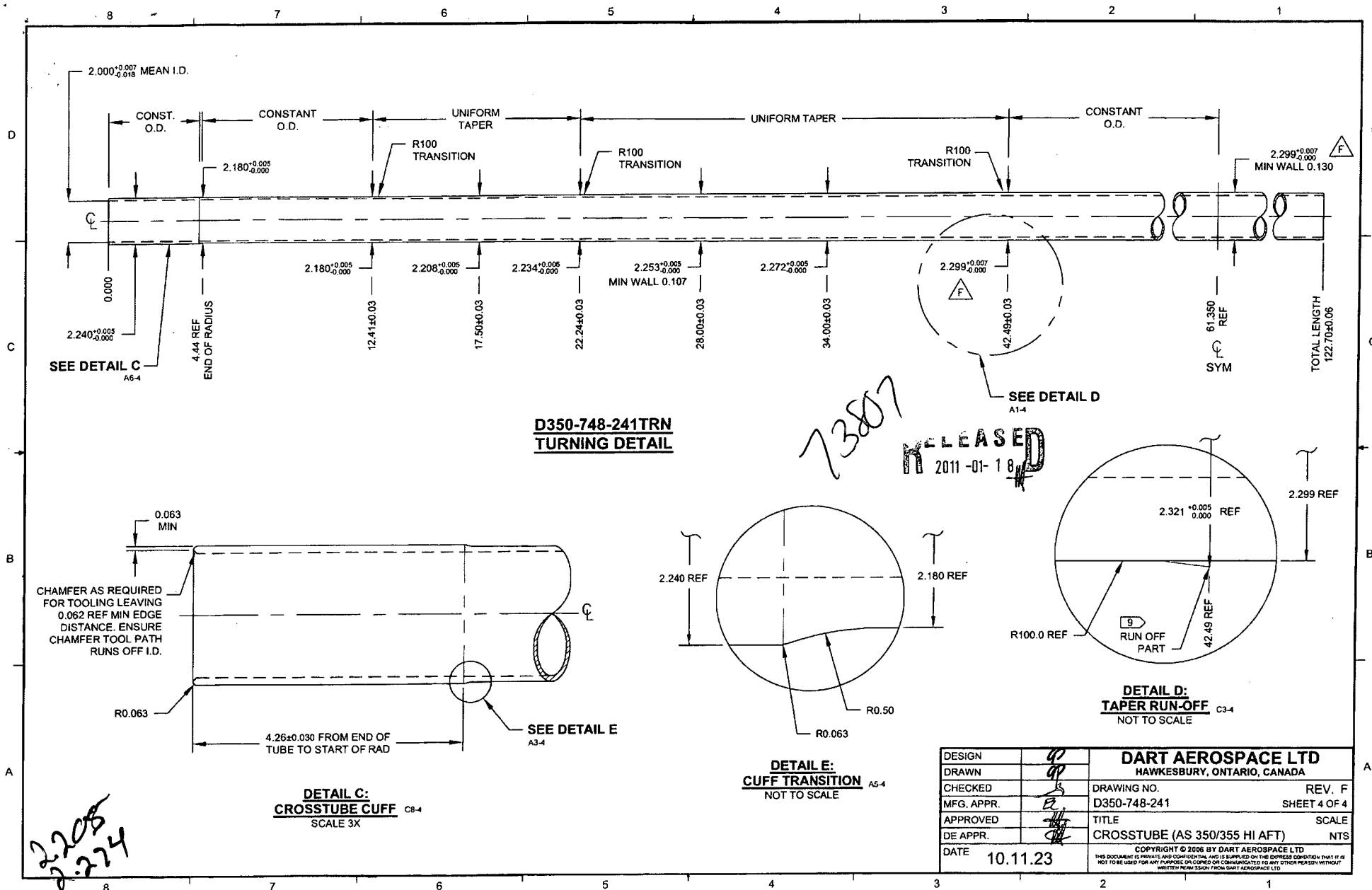
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

DRAWING NO. D350-748-241	TITLE CROSSTUBE (AS 350/355 HI AFT)	REV. F	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D350-748-241-F-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>CP</i>	CHECKED <i>3</i>	MFG. APPR. <i>M</i>	APPROVED <i>MP</i>		DE APPR. <i>TH</i>		
DATE 12.04.02	DATE 12.04.03	DATE 12.04.03	DATE 12.04.03		DATE 12.04.03		

**PURPOSE:**

ADD A STRESS RELIEF OPERATION FOLLOWING BENDING

**CHANGE:**

ADD

10) AFTER BENDING: STRESS RELIEF AT 650°F ± 25°F FOR A MINIMUM OF 2 HRS.  
AIR COOL TO AMBIENT TEMPERATURE  
(REF. AMS2759/1E)

# METCOR INC.

560 BOUL. ARTHUR-SAUVÉ

ST-EUSTACHE, QC, J7R 5A8

Tel: 450-473-1884 / Fax: 450-491-5498

## Certificat de Conformité Détaillé

Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
175005	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

1

COMMANDE DU CLIENT customer po	BON DE LIVRAISON DU CLIENT customer shipper no.	MATÉRIEL material	CODE DE TRAITEMENT mat'l heat code	NUMÉRO DE LOT lot number						
PO16638		Steel								
<b>SPÉCIFICATIONS DU PROCÉDÉ</b> processing specifications										
STRESS REL										
SAE AMS 2759/1 REV.E										
EXIGENCE / requirement SPÉCIFICATIONS / specified TESTS EXÉCUTÉS / performed RÉSULTATS DE TESTS / results										
Visual										
QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description								
9	270	D350-748-101 (7) CROSS TUBE  (2) D350-748-201 CROSS TUBE  CONTENANT: 1 NIL								
Operation	Temp. spécifiée Specified Temp	Temps de trempage Spécifié Specified Soak Temp	Atmosphere	Carbone Carbon Potential	Q-Media Q-Temp	Four # Furnace #	Date Départ Start Date	Heure d'entrée Time In	Heure de sortie Time Out	Date Complétée Date complete
1,00 CONT. INIT.	LAVAGE		si nécessaire							
2,00 PREPARINC	COMPTAGE									
3,00 STRESS RE	650 +/-25°F	2 hrs	air			701				
4,00 FINAL INSP							04-05-2012			04-05-2012

### COMMENTAIRES / comments

ALL THE HEAT TREATMENT PROCESSING PERFORMED ON THIS ORDER WAS ACCOMPLISHED USING HEAT TREATMENT EQUIPEMENT THAT MEETS THE REQUIREMENTS OF AMS 2759. ALL THE HEAT TREATMENT OPERATIONS WERE ACCOMPLISHED IN ACCORDANCE WITH THE REQUESTED/REQUIRED HEAT TREATMENT SPECIFICATION AND ALL REQUIRED VERIFICATIONS TEST HAVE BEEN PERFORMED AND DOCUMENTED. NO UNAUTHORIZED CHANGES OR DEVIATIONS TO REQUIRED HEAT TREATMENT SPECIFICATIONS OR PROCEDURES HAVE BEEN PERFORMED.

# METCOR INC.

560 BOUL. ARTHUR-SAUVÉ  
ST-EUSTACHE, QC, J7R 5A8

Tel: 450-473-1884 / Fax: 450-491-5498

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Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
175005	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

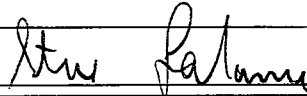
1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

1

APPROUVÉ par / Approved by:



MET  
16

DATE: 2012-04-05

/ Nous certifions que toute l'information comprise sur ce rapport est exacte et conforme aux requis du client./We certify that all the information on this report is exact and in accordance with the order requirements.



Metcor Inc.  
560, boul. Arthur-Sauvé  
St-Eustache (Québec) J7B 5A8  
Tél: 450-473-1864  
Télécopieur / Fax: 450-491-5498  
Télécopieur / Fax: 450-491-6454

Certificat de conformité

Certificate of conformance

BON DE TRAVAIL	CHARGEMENT
order	load
175005	1

CLIENT / customer 216  
DART AEROSPACE  
1270 ABERDEEN  
HAWKESSBURY ON K8A 1K7

LIVRÉ À / shipped to:  
DART AEROSPACE  
1270 ABERDEEN  
HAWKESSBURY ON K8A 1K7

COMMANDE DU CLIENT	BON DE LIVRAISON DU CLIENT	MATÉRIEL	CODE DE TRAITEMENT	NUMÉRO DE LOT
customer po	customer shipper no.	material	mat'l heat code	lot number
		Steel		

SPÉCIFICATIONS DU PROCÉDÉ

processing specifications

STRESS REL

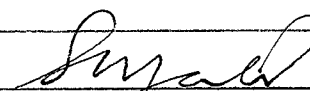
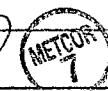
BAE AW 5 2732X REV E

EXIGENCE / requirement SPÉCIFICATIONS / specified TESTS EXÉCUTÉS / performed RÉSULTATS DE TESTS / results  
Visual

QUANTITÉ	POIDS	DESCRIPTION DES PIÈCES
quantity	weight	parts description
2	270	D350-748-141-F-1

COMMENTAIRES / comments

INSPECTEUR / inspector:

DATE: 2012-04-05

## Dora Cameron

---

**From:** Dan Stow <dstow@dartaero.com>  
**Sent:** April 18, 2012 4:42 PM  
**To:** Dora Cameron  
**Subject:** FW: 350 crosstubes oval cuffs



### **Dan Stow**

*Special Projects Manager*

T. 613-632-5200 | C. 613-676-3320 | F. 613-632-1426

1270 Aberdeen Street, Hawkesbury, Ontario, Canada, K6A 2K7

---

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---

**From:** David Shepherd [<mailto:dshepherd@dartaero.com>]  
**Sent:** Wednesday, April 18, 2012 12:10 PM  
**To:** 'Bill Beckett'  
**Cc:** 'Dan Stow'; 'L Lacelle'; 'Mike Petsche'; 'Eric Downing'; 'Pat Smith'  
**Subject:** RE: 350 crosstubes oval cuffs

Agreed ... This seems OK to me ... Hopefully we only need to do this to a handful of crosstubes.

David

---

**From:** Bill Beckett [<mailto:bbeckett@dartaero.com>]  
**Sent:** April-18-12 6:31 AM  
**To:** 'David Shepherd'  
**Cc:** 'Dan Stow'; 'L Lacelle'; 'Mike Petsche'; 'Eric Downing'; Pat Smith  
**Subject:** RE: 350 crosstubes oval cuffs

David,

This looks like a relatively controllable process that we could have Dan carry out on the other crosstubes that are oval in the cuff area.

If you agree with this rework method, we will proceed with the remainder of the crosstubes. I suggest we do this via markup on the specific work orders.

Bill

---

**From:** Dan Stow [<mailto:dstow@dartaero.com>]  
**Sent:** April 18, 2012 7:52 AM  
**To:** Bill Beckett; David Shepherd; 'Mike Petsche'; L Lacelle; Eric Downing  
**Subject:** 350 crosstubes oval cuffs

Hello All,



Please reference photo attached. The crosstube was placed in a hydraulic press between two sheets of plywood to prevent damage with the max. dimension facing up and down. 9000 lbs (5000psi at 1.5" bore) was applied and then crosstube was removed from the press and measured. Process was repeated with the crosstube at a different position because the max. dimension had changed location. Total time for rework was approximately 20 mins.

Cuff dimension before rework was min. 2.200" max. 2.280"

Cuff dimension after rework is min. 2.230" max. 2.252" which is 0.010" below tolerance and 0.007" above tolerance but now fits in the drill jig.



**Dan Stow**

*Special Projects Manager*

T. 613-632-5200 | C. 613-676-3320 | F. 613-632-1426

1270 Aberdeen Street, Hawkesbury, Ontario, Canada, K6A 2K7

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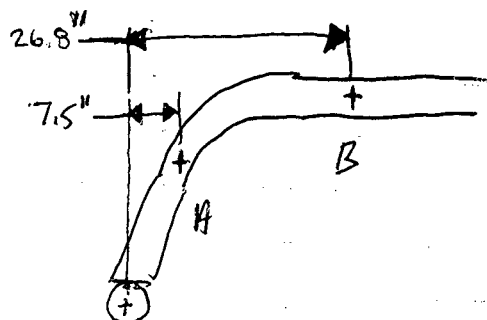
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12.03.08

## CRUSHING OF D350-748-201



Point A:  $OD1 = 2.061$   $OD2 = 2.419$   
 $CRUSHING = (2.419 - 2.061) / (2.419 + 2.061) = 8\%$   
 $I = 0.395 \text{ in}^4$  (from AutoCAD)

Point B:  ~~$OD1 = 2.299$~~   $ID = 2.061$   $OD = 2.299$   
 ~~$I = 0.586$~~   $I = 0.586 \text{ in}^4$

A:  $F = M_L / I = P \times 2.061 \times 7.5 / 2 \times 0.395 = 19.57 P$   
 B:  $F = M_L / I = P \times 2.299 \times 26.8 / 2 \times 0.586 = 52.57 P$

$$MS = 52.57 / 19.57 - 1 = 1.6$$

Tube will fail at support before failing at area of high crushing (near the bottom of the bend).  
 Therefore 8% crushing at end of the bend is acceptable

GP 12.03.08

# Packing Slip

**Sold To:**

Dart Aerospace Ltd.  
1270 Aberdeen St.

Hawksbury, ON K6A 1K7

**ShipTo:**

## Cadorath Coating

2150 Logan Avenue, Winnipeg, Manitoba R2R-0J2

Phone: (204) 633-9420 Fax: (204) 633-8033

**INVOICE NUMBER:**

60271

Net 2% Interest Per Month charged on Overdue Accounts.

Any claims for shortages, overcharges, or damaged goods must be made within seven (7) days from receipt of goods.

Customer Order #:	Date Received:	Terms:	G.S.T. #:	Ship Via:	Ship Date:
PO16826	May-01-2012	NET 30 DAYS	10071 6547 RT0001		May-03-2012

**Item # Qty P/N & Description**

1	1 EA	SKID	S/N B73807
		P/N d350-748-201	W/O 114047
2	1 EA	SKID	S/N B77763
		P/N d350-748-101	W/O 114042

**CERTIFICATE OF  
CONFORMANCE**

**CADORATH PLATING CO. LTD.  
2150 LOGAN AVENUE  
WINNIPEG, MANITOBA R2J-0J1**

**DATE:** May-03-2012

**CONSIGNED TO:** Dart Aerospace Ltd.  
1270 Aberdeen St.  
Hawksbury, ON K6A 1K7

**W/O #:** 114047  
**INVOICE #:** 60271

**CONTRACT OR  
PURCHASE ORDER #** PO16826

**DESCRIPTION:** SKID

**P/N #** d350-748-201

**S/N #** B73807

**QTY** 1

MPI IAW ASTM-E-1444. CADMIUM PLATE IAW AMS-QQ-P-416C TYPE  
2 YELLOW CLASS 1. BAKE HEAT CHART # 12-425 AND # 12-442.

**CERTIFICATE:** I certify that the items indicated here on have  
been inspected and tested and conform to all specifications  
and requirements detailed on the contract or purchase order.

**Approved Inspector:**





# RAPPORT D'INSPECTION PAR RESSUAGE

P - 11201

PAGE 1 DE 2  
HEURE AM ☐ PM ☒

CLIENT

ATTENTION

RESSUSCÉ

PROJET

ÉLÉMENT(S) EXAMINÉ

DATE

N° TRAVAIL  
ACUREN

N° CLIENT PO/WO

SITE DE TRAVAIL

ACCEPTATION STD.

May 17<sup>th</sup> 2012  
188-12-2012

30551

Hawkesbury

May 17<sup>th</sup> 2012

DATE/RÉV. 2005

Dart Aerospace  
Mr. Chantel  
1270 Aberdeen St  
Hawkesbury, Ont

Inspection Fluorescent on crevices external surface  
9 Crevices

## DESCRIPTION DES TRAVAUX

N° PROCÉDURE

LT-002

DATE/RÉV. 2009

N° TECHNIQUE

LT-002

DATE/RÉV. 2009

N° ITEMS

DESCRIPTION

MATÉRIEL

ÉPAISSEUR

9 Crevices see below  
Fluorescent inspection, 100% on external surface on  
9 Crevices

## DÉTAILS DES INSPECTIONS

MÉTHODE : ☒ FLUORESCENT ☐ VISIBLE ☒ LAVABLE À L'EAU ☐ MÉTHODE DISSOLVANT ☐ PRÉ-ÉMULSIONNANT  
MARQUE : Magnaflex LUM. NOIRE S/N 16460 ☐ PUISS. > 1000 µ W/cm² ☐ AMBIANT < 2 fc  
PÉNÉTRANT : Zyglo 21.67 TEMPS PÉNÉTRATION MIN. 10 MIN. ÉQUIP. LUMIÈRE ☐ LAMP. POCHÉ ☐ LAMP. CULASSE ☐ PUISS. > 100 fc @ SURFACE  
DISSOLVANT PÉNÉTRANT H2O TEMPS SÉCHAGE MIN. > 10 MIN. AUTRES  
RÉVÉLATEUR 5KD 5.2 TEMPS PÉNÉTRATION MIN. 10 MIN. MÈTRE LUM. N/S DATE CAL DUE  
TYPE RÉVÉLATEUR ☐ NON AQUEUX ☐ AQUEUX ☐ SEC

## SURFACE INSPECTÉE

CONDITION SURFACE ☐ MEULÉE ☐ SOUDÉE ☒ MACHINÉE ☐ GRENAILLÉE ☒ MÉTAL PROPRE  
TEMPÉRATURE SURFACE ☐ < - 4°C / 20°F ☐ - 4°C / 20°F DE 10°C / 50°F ☒ 10°C / 50°F DE 52°C / 125°F ☐ > 52°C / 125°F

## RÉSULTATS-

☐ MÉTRIQUE ☐ IMPÉRIAL

See other sheet  
for result

P/O 17031

*[Signature]*

## Étendue des Services

L'entente selon laquelle le Groupe Acuren Inc. exécute les services ne concerne que les énoncés par écrit. En aucune circonstance ces services ne s'étendent au-delà de l'exécution des services demandés. Il est entendu que toutes les descriptions, les observations et les expressions d'opinions faites par Acuren reflètent les opinions ou les observations de l'entreprise fondées sur l'information et les hypothèses fournies par le propriétaire/opérateur, et elles ne constituent pas des déclarations ou des garanties ou ne peuvent être interprétées comme constituant. Le Groupe Acuren Inc. n'assume aucune des responsabilités du propriétaire/opérateur, et le propriétaire/opérateur conserve la responsabilité entière des décisions prises en matière d'ingénierie, de fabrication, de réparation et d'usage à partir de l'information ou des données fournies par Acuren en rapport avec les services décrits dans les présentes ne peuvent excéder le coût des services rendus.

## Norme de Diligence

Dans l'exécution des services, le Groupe Acuren Inc. applique le degré de diligence, le soin et la compétence normalement exercés dans des circonstances semblables par d'autres fournisseurs de ce type de services opérant dans la même localité ou dans une localité similaire. Aucune autre garantie, implicite ou explicite, n'est faite ou voulue par le Groupe Acuren Inc.

## SIGNATURES

REPRÉSENTANT

TECHNICIEN (SIGNATURE)

NOM (MOULÉ):

SIGNATURE

FTJ #

RAPPORT  
RÉVISÉ PAR:

NOM

INITIALES

ONGC NIVEAU

ONGC N° REG.

1<sup>ER</sup> TECHNICIEN

SNT NIVEAU

ONGC NIVEAU

ONGC N° REG.

2<sup>ÈME</sup> TECHNICIEN

SNT NIVEAU

BLANCHE - COPIE DU CLIENT

JAUNE - COPIE DU BUREAU

ROSE - COPIE DU TECHNICIEN

OR - COPIE DU BUREAU

PT Décembre 200



# RAPPORT D'ESSAI NON DESTRUCTIF

(SUITE)

RAPPORT #

P-11201

PAGE 2 DE 2

CLIENT Doni Aircospace DATE May 17, 2012 HEURE ☐ AM ☒ PM  
ATTENTION 188-12-2012  
RÉSULTATS (☐ METRIQUE ☐ IMPÉRIAL)

		Cross tubes		Inspection	
①	work order ID	83060	Item ID	D350-748-101	OK
(2)	"	77766	"	"	OK
(3)	"	76574	"	"	OK
(4)	"	81518	"	"	OK
(5)	"	76573	"	"	OK
(6)	"	77763	"	"	OK
(7)	"	73807	"	"	201 OK
(8)	"	81523	"	"	201 OK

# on cross tube B 83060

No paper work  
Fit with this  
number

2 x-tubes under  
batch # 83060  
→ Preliminary Design

Inspection OK

## Étendue des Services

L'entente selon laquelle le Groupe Acuren Inc. exécute les services décrits, les observations et les expressions d'opinions faites ne pas des déclarations ou des garanties ou ne peuvent être interprétées des décisions prises en matière d'ingénierie, de fabrication, services rendus.

## Norme de Diligence

Dans l'exécution des services, le Groupe Acuren Inc. applique le de localité ou dans une localité similaire. Aucune autre garantie, implicite.

## SIGNATURES

REPRÉSENTANT  
À LA CLIENTÈLE

TECHNICIEN (SIGNATURE)

NAME (MOULÉE):

NIVEAU CGSB

No. ENREG. CGSB

1<sup>er</sup> TECHNICIEN

NIVEAU SNT

NIVEAU CGSB

No. ENREG. CGSB

2<sup>e</sup> TECHNICIEN

NIVEAU SNT

FTJ #:

RAPPORT  
REVISÉ PAR:

NOM

INITIALES

H-3050

BLANCHE - COPIE DU CLIENT

JAUNE - COPIE DU BUREAU

ROSE - COPIE DU TECHNICIEN

OR - COPIE DU BUREAU